

Applicant submits that claims 1, 2 and 5-8 as pending are clearly in condition for allowance, as will be discussed in further detail herein below. The remarks of the instant response are provided to further clarify and distinguish Applicant's invention over the prior art relied upon by the Examiner in the Final Office Action

Fundamental Difference Between the Claimed Inventions and the Cited References

Claim 1 recites an inflatable product including:

***an inflatable body;***

***a socket built in the inflatable body;***

an electric pump, including a pump body and an air outlet, connected to the socket to pump the inflatable body, wherein ***the pump body is wholly or partially located in the socket;*** and

a connector provided at a predetermined position of the electric pump for connecting an external power to actuate the electric pump.

Claim 2 recites an inflatable product including:

***an inflatable body;***

***a socket built in the inflatable body;*** and

an electric pump, including a pump body and an air outlet, connected to the socket to pump the inflatable body, wherein ***the pump body is wholly or partially located in the socket.***

Thus, in both claims 1 and 2, an inflatable product includes (1) an inflatable body, and (2) a socket built in the inflatable body. A pump body of an electric pump is wholly or partially located in the socket. One advantage of this arrangement is that at least a portion of the pump body is located inside the inflatable body. This arrangement thus reduces the amount of space outside the inflatable body that needs to be occupied by the pump body.

For example, in the embodiment in which the pump body is *wholly* located in the socket, little if any of the pump is outside the inflatable body. Thus, where the inflatable body is the portion of

the product that provides its beneficial use, there is little if any wasted space. There is no need for external structure to house or support the pump. Rather, it is recessed into the inflatable body, and thus out of the way. If the inflatable product is, e.g., an air bed, the dimensions of the inflatable body can be the same size as a conventional inner spring mattress (e.g., twin, queen, king, etc.). Because the pump body is recessed into the inflatable body, the user will be less likely to trip over or bump the pump, bed sheets will fit properly, and the overall look of the bed will be much like that of the standard inner spring mattress. By contrast, a pump body that is external to the inflatable body can be unwieldy and cumbersome, or require a separate housing or containment structure.

This is illustrated by the embodiments of both Wortman and Higgs. In both references, as discussed in detail below, the pump body is not received in whole or in part in a socket in an inflatable body, but rather within a **non-inflatable** external shell enveloping both the pump and the inflatable body as separate items.

These differences are clearly illustrated in Figs. 11-14 of Wortman, which show a significant amount of space around the inflatable body 180 occupied by cribs 176 and 178 and the notch for receiving the pump therein. First, with Applicant's invention there is no required external frame or crib. Second, given that the user 171 of Wortman's device is apparently expected to rest on the inflatable body 180, and not cribs 178, the space extending in the horizontal plane of crib 178 on either side of the inflatable body 180 is underutilized. The same problem is evident in Fig. 5 of Higgs: the blower housing 24 is not located at all in a socket built into the inflatable air chamber 28. As a result, that end of the mattress 3 does not provide the user with any air-inflated support. If Higgs' mattress were, e.g., a twin-size mattress, a relatively tall user might have to rest either his head or his feet on top of the blower housing, which provides a non-uniform sleeping surface (and which may be less comfortable) and partially defeats the purpose of having an air-inflatable sleeping surface. If Higgs were to attempt to address this by lengthening the mattress, such that the air-inflatable region is of the size of a conventional twin-size bed, then the overall dimensions of the bed could be too large to accommodate conventional twin-size bed sheets. Thus, when compared to the structures disclosed by Wortman and Higgs, the claimed inventions allow for a larger amount of usable space, i.e., a

larger inflatable body, with the inflatable product as a whole occupying the same amount of total space.

Rejections over Wortman

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Wortman.

Applicant respectfully traverses the rejections for the reasons that follow.

In the rejections, the Examiner relies on mattress 30 and notch 63 illustrated in Fig. 15 of Wortman to teach the inflatable body and socket built in the inflatable body of the claims. See page 2 of the office action dated August 24, 2005.

Mattress 30 is not an "inflatable body" as recited in claims 1 and 2 of the present application.

During patent examination, the pending claims must be given their "broadest reasonable interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). Plain meaning refers to the ordinary and customary meaning given to the term by those of ordinary skill in the art. MPEP 2111 *et seq.*

Claims 1 and 2 recite an inflatable product including an inflatable body and a socket built in the inflatable body. The term "inflatable body" refers to a substantially airtight structure that expands when filled with air or other gas.

In the office action dated January 6, 2006, the Examiner states:

With regards to Wortman et al the applicant argues that because the air cells are the inflatable element then the mattress 30 itself is not inflatable. The examiner disagrees because the air mattress includes as one of its elements the air cells. The applicant admits this in his own arguments. Because part of the air mattress (the cells) are inflatable then the mattress is an inflatable object.

Applicant first points out that the claims do not recite an "inflatable object," but instead recite an inflatable product including "an inflatable body." As noted, an "inflatable body" refers to a substantially airtight structure that expands when filled with air or other gas.

Applicant also points out that just because a part of an item is an inflatable body does not mean that the item as a whole is an inflatable body. For example, an automobile equipped with a safety airbag is not an inflatable body even though the automobile includes an inflatable body as one of its elements. That is because the automobile, as a whole, is not a substantially airtight structure that expands when filled with air or other gas.

Mattress 30 includes a support member 32 and cribs 34, 36 composed of a foam material. See column 6, lines 4-10 of Wortman. The mattress further includes as two of its elements air cells 44 and 46, which are supported on support member 32 in a framework defined by cribs 34 and 36. See Fig. 2 and column 6, lines 24-26 of Wortman. As clearly shown in Fig. 2, the framework defined by cribs 34 and 36 includes sizable openings to the ambient into which air cells 44 and 46 are received.

Applicant contends that when accorded its plain meaning, the term "inflatable body" does not encompass cribs 34 and 36. Cribs 34 and 36 are not substantially airtight structures, and do not expand when filled with air. Because Cribs 34 and 36 are components of mattress 30, mattress 30 is thus also not as a whole an "inflatable body." To the contrary, this is the purpose of air cells 44 and 46. Applicant therefore submits that the air cells are the only "inflatable bodies" in Wortman.

Wortman does not teach or suggest an inflatable product including an inflatable body, and a socket built in the inflatable body, as recited in claims 1 and 2.

To anticipate a claim, a reference must teach every element of the claim. In this regard, the Federal Circuit has held:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

"The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

As noted above, cribs 34 and 36 are not inflatable bodies. Air cells 44 and 46, on the other hand, are inflatable bodies, but do not in any way enclose notch 63. Instead, notch 63 is formed by a cut-out in a lower corner of the foot portion of the crib support structure in an area adjacent to the air cells 44 and 46. See Fig. 15 and column 12, lines 61-66 of Wortman. Because the Examiner identifies notch 63 as the alleged socket of claims 1 and 2, and because notch 63 is not "built in" the air cells 44 and/or 46, Applicant submits that Wortman fails to teach the claim feature of a socket built into an inflatable body.

In short, the Examiner appears to rely on the air cells 44 and/or 46 to meet the "inflatable body" feature of the claims, but then purports to find the other features of the claims by reference to mattress 30 as a whole, just because the air cells 44 and 46 are aggregated into the overall assembly of mattress 30. Applicant respectfully disagrees that this is a proper approach. Mattress 30 is not an "inflatable body" because mattress 30, as a whole, is not a substantially airtight structure, and does not expand when filled with air or other gas. If, as appears to be the case, the Examiner wishes to rely on air cells 44 and/or 46 as the "inflatable body," Applicant agrees, but submits that a fair and proper application of the claim language requires the Examiner to identify (1) a socket built into either air cell 44 or air cell 46, and (2) an electric pump having a pump body located wholly or partially in that socket. Applicant submits that the Examiner has not identified either (1) or (2) in Wortman, and that such features are not disclosed in the reference.

Applicant therefore respectfully requests that the rejection of claims 1-2 over Wortman be withdrawn and the claims passed to issue.

Rejections over Higgs

Claims 1-2, 5 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Higgs.  
Applicant respectfully traverses the rejections for the reasons that follow.

Applicant first notes that the reference to Wortman on page 4, line 10 of the response filed on November 24, 2005 was simply calling attention to the similarity of the rejections over Higgs to those over Wortman.

In the rejections, the Examiner relies on mattress 3 and hollow compartment 22 illustrated in Fig. 3 of Higgs to teach the inflatable body and socket built in the inflatable body of the claims. See page 2 of the office action dated August 24, 2005.

Mattress 3 is not an "inflatable body" as recited in claims 1 and 2 of the present application

As noted above in connection with the rejections over Wortman, claims 1 and 2 recite an inflatable product including an inflatable body and a socket built in the inflatable body. As also noted, the term "inflatable body" refers to a substantially airtight structure that expands when filled with air or other gas.

In the office action dated January 6, 2006, the Examiner states:

With regard to Higgs the applicant's argument that the sheet of foam material is not an inflatable body is not convincing. In Higgs it is the whole structure of the mattress 3, which the sheet of foam material along with the rest of the structure forms, that defines the void into which air is pumped to inflate the mattress 3. Because the void is defined by the structure of the mattress 3 the mattress 3 is an inflatable object.

As discussed in connection with the rejections over Wortman, Applicant notes that the claims do not recite an "inflatable object," but instead recite an inflatable product including an inflatable body.

The Examiner appears to argue that the whole structure of the mattress 3 defines a void into which air is pumped to inflate the mattress 3, and therefore the mattress 3 is an inflatable body.

Applicant respectfully disagrees. Mattress 3 includes flat sheets of foam material cemented together to define hollow compartment 22 therein. An inflatable air chamber 28 and blower housing 24 are adjacently disposed in hollow compartment 22. Higgs also discloses that “[a]xially aligned windows 6 and 8 are cut through the liner 2 and a side rail 14 of mattress 3 to allow the health care worker or care giver to access a control panel 48 that is located on the blower housing 24.” See column 2, lines 46-55 and Fig. 3 of Higgs. In other words, the assembly of flat sheets of foam material of mattress 3 includes windows 6 and 8 communicating the hollow compartment 22 with the ambient. Indeed, ambient air is apparently drawn by blower 50 through windows 6 and 8, and then through baffles 58 before being delivered to the inflatable air chamber 28 through the flexible air tube 30. (See Fig. 7.) Thus, there no disclosure that any portion of the mattress encompassing blower housing 24 is inflatable, and Higgs does not make any attempt to inflate it. Air simply passes through this portion en route to the inflatable air chamber 28.

Applicant contends that when the claim term is accorded its plain meaning, mattress 3 as a whole is not an “inflatable body.” More particularly, mattress 3 as a whole includes windows 6 and 8 communicating the hollow compartment 22 defined by the flat sheets of foam material with the ambient, and therefore as a whole is not a substantially airtight structure that expands when filled with air. Specifically, because of windows 6 and 8 and blower housing 24, the portion of mattress 3 that encompasses blower housing 24 is (1) not a substantially airtight structure, and (2) would not expand when filled with air or other gas. To the contrary, this is the purpose of air chamber 28. Applicant therefore submits that the air chamber is the only inflatable body in Higgs.

Higgs does not teach or suggest an inflatable product including an inflatable body, and a socket built in the inflatable body, as recited in claims 1 and 2.

As noted above, mattress 3 described by Higgs is not an inflatable body. Air chamber 28, on the other hand, is an inflatable body, but does not in any way enclose hollow compartment 22.

See Fig. 3 of Higgs. Because the Examiner relies on hollow compartment 22 as the alleged socket of claims 1 and 2, and hollow compartment 22 is not "built in" the air chamber 28, Applicant submits that Higgs fails to teach the claim feature of a socket built into an inflatable body.

Thus, as with Wortman, the Examiner appears to rely on the inflatable air chamber 28 to meet the "inflatable body" feature of the claims, but then purports to find the other features of the claims by reference to mattress 3 as a whole, just because the inflatable air chamber 28 is aggregated into the overall assembly of mattress 3. Applicant respectfully disagrees that this is a proper approach. Mattress 3 is not an "inflatable body" because mattress 3, as a whole, is not a substantially airtight structure, and does not as a whole expand when filled with air or other gas. If, as appears to be the case, the Examiner wishes to rely on the inflatable air chamber 28 as the "inflatable body," Applicant agrees, but submits that a fair and proper application of the claim language requires the Examiner to identify (1) a socket built into the inflatable air chamber 28, and (2) an electric pump having a pump body located wholly or partially in that socket. Applicant submits that the Examiner has not identified either (1) or (2) in Higgs, and that such features are not disclosed in the reference.

Applicant therefore respectfully requests that the rejection of claims 1-2 over Higgs be withdrawn and the claims passed to issue. Insofar as claim 7 depends from claim 1 and claims 5-6 and 8 depend from claim 2, and therefore incorporate all of the limitations of either claim 1 or 2, it is Applicant's belief that these claims are also in condition for allowance.

#### Rejections over Higgs in view of Infante

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higgs in view of Infante. As noted above, it is Applicant's belief that claims claim 6 is allowable by virtue of its dependency from claim 2. For this reason, the Examiner's arguments in connection with this claim are considered moot and will not be addressed here.

#### Conclusion

For the reasons described above, the Applicant believes that the application is now in condition for allowance and respectfully requests so.



Appl. No. 10/647,814

Examiner: Freay, Charles, Art Unit 3746

In response to the Office Action dated January 20, 2006

Date: April 19, 2006

Attorney Docket No. 10111953

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Nelson A. Quintero', written over a horizontal line.

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